

10/537261

1/19

FIG.1

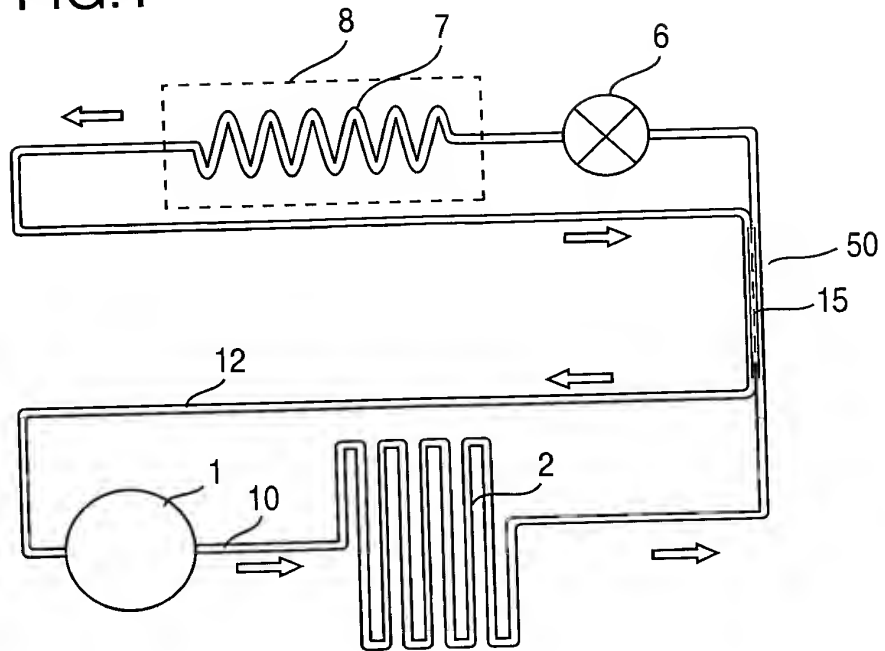


FIG.2A

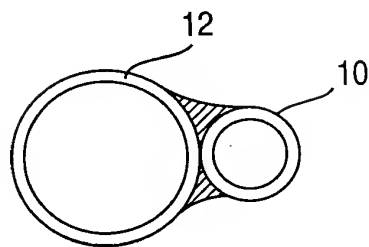
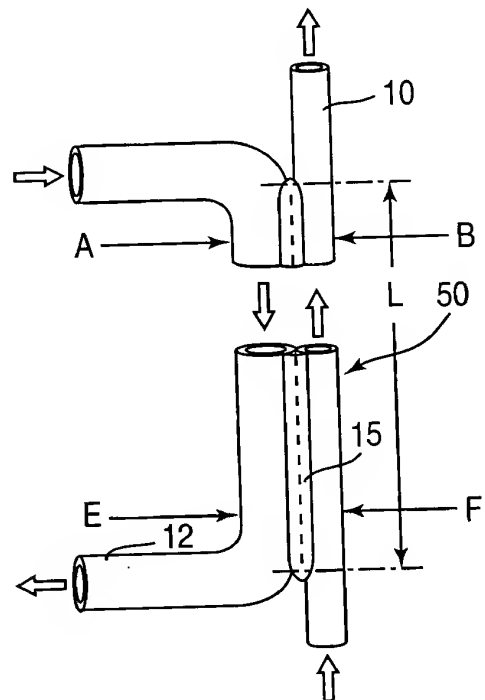


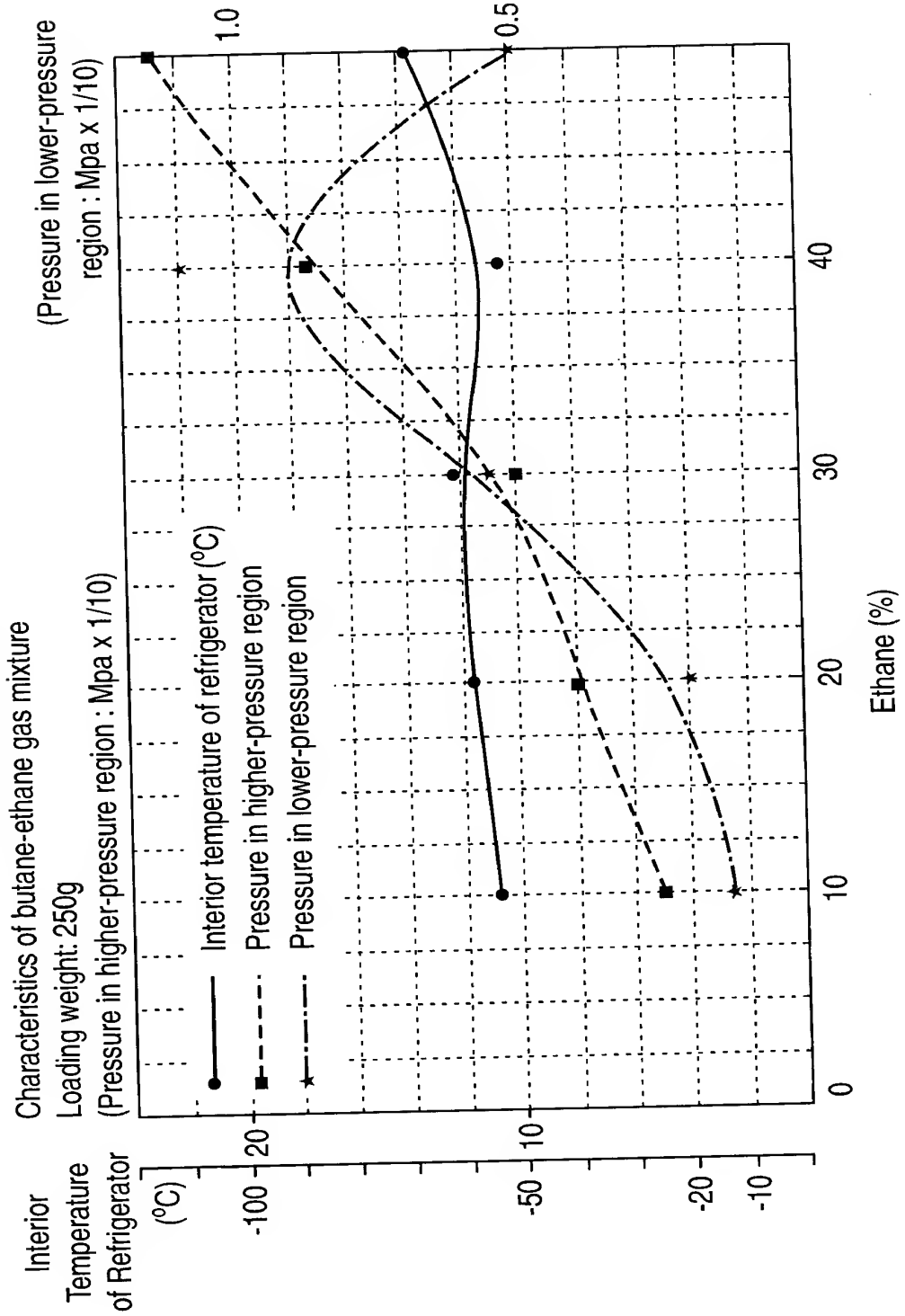
FIG.2B



10/537261

2/19

FIG.3

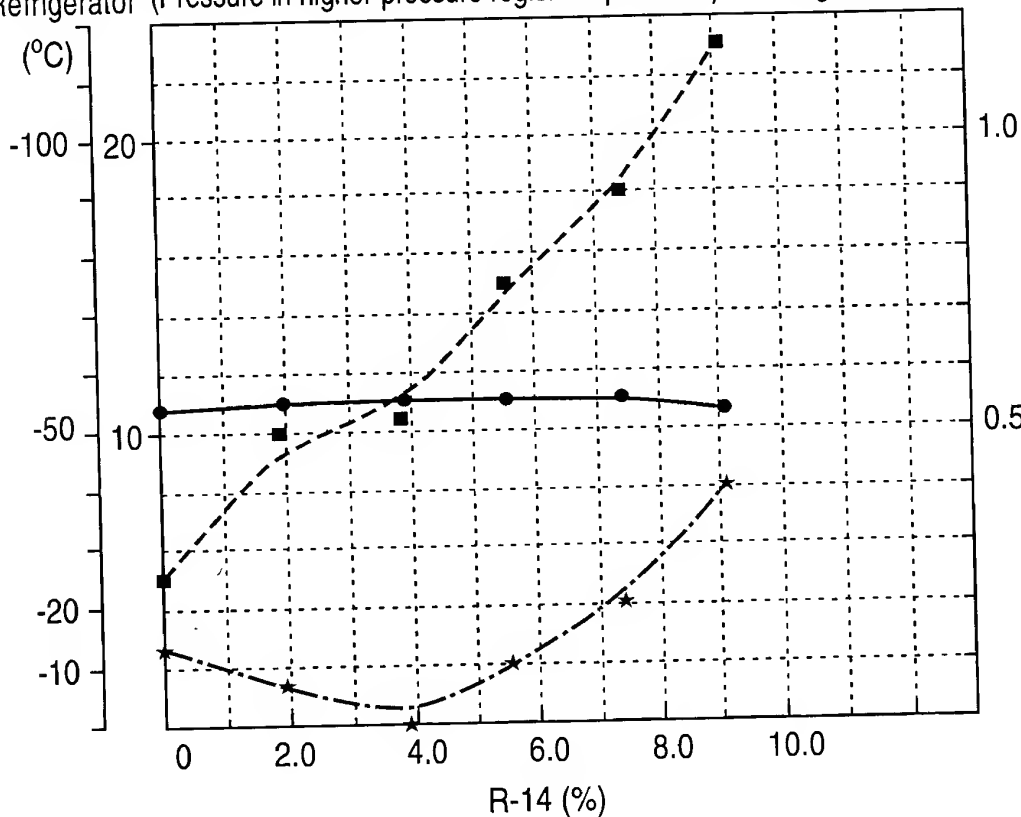


10/537261

3/19

FIG.4

Interior Temperature of Refrigerator (°C)
Butane / Ethane / R-14 ternary mixture
Butane-ethane : 90/10 (loading weight : 250g)
(Pressure in higher-pressure region : Mpa x 1/10)
(Pressure in lower-pressure region : Mpa x 1/10)



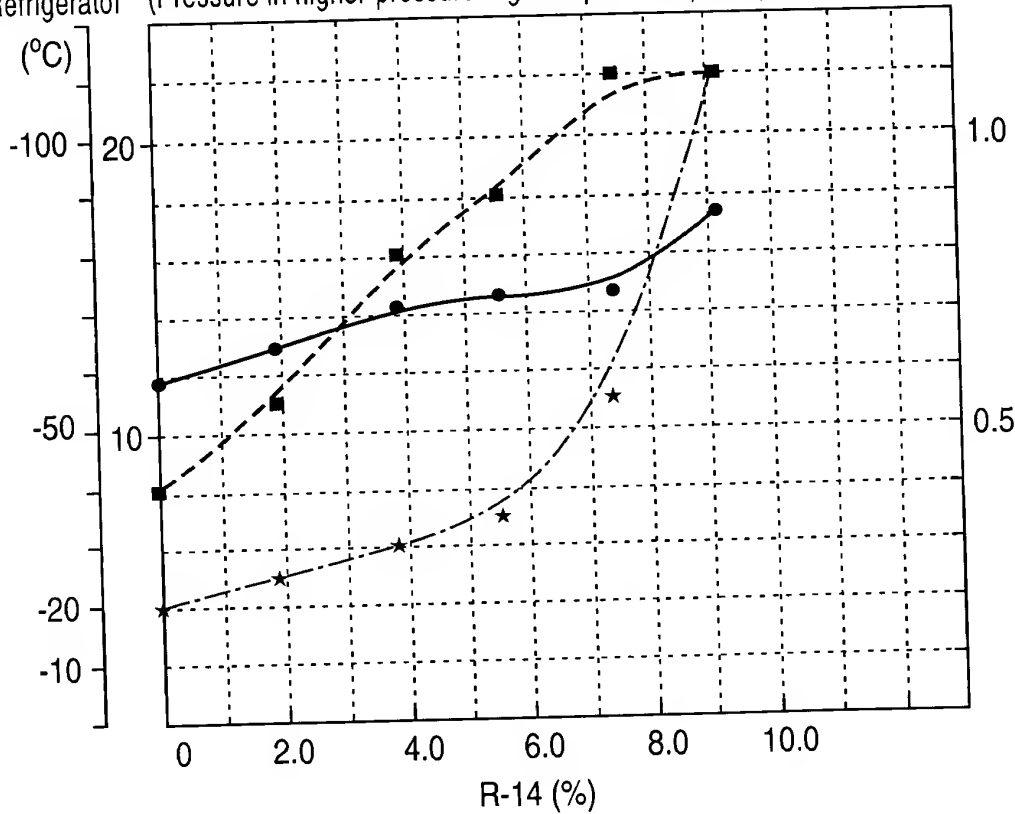
- — Interior temperature of refrigerator (°C)
- - - - Pressure in higher-pressure region
- ★ - . - Pressure in lower-pressure region

10/537261

4/19

FIG.5

Interior Temperature of Refrigerator
Butane / Ethane / R-14 ternary mixture
Butane-ethane : 80/20 (loading weight: 250g)
(Pressure in higher-pressure region: Mpa x 1/10)
(Pressure in lower-pressure region: Mpa x 1/10)

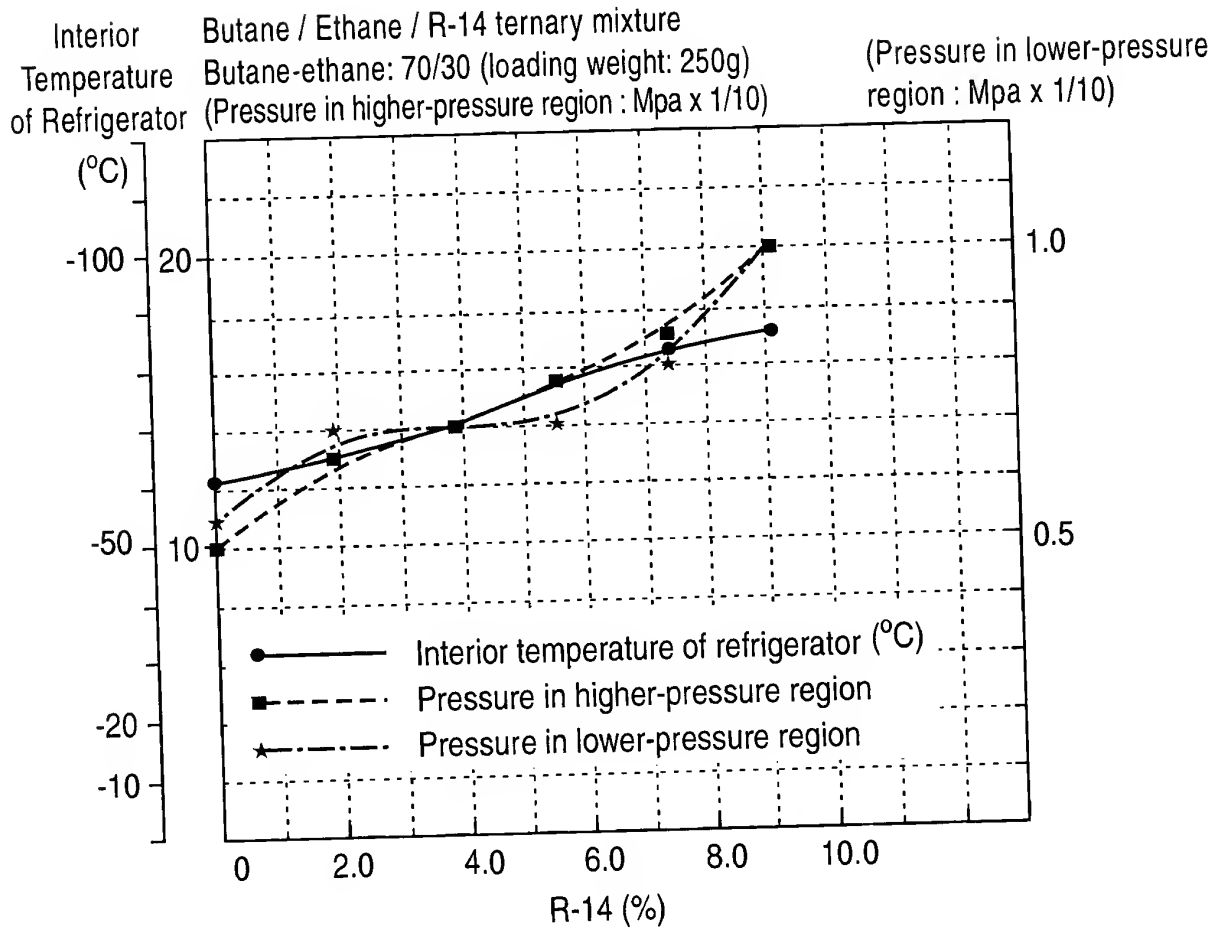


- — Interior temperature of refrigerator (°C)
- - - - Pressure in higher-pressure region
- ★ - . - Pressure in lower-pressure region

10/537261

5/19

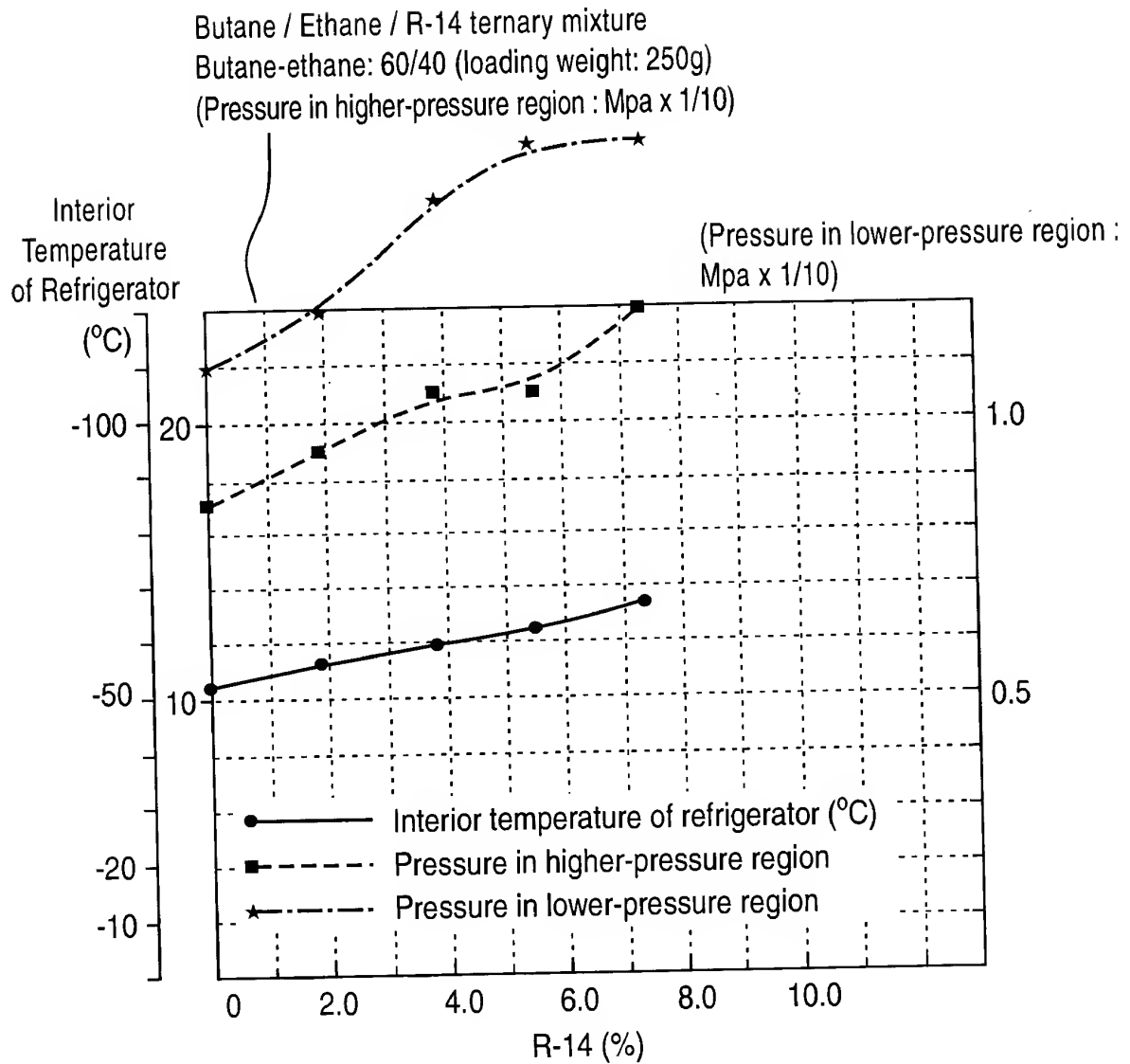
FIG.6



10/537261

6/19

FIG.7

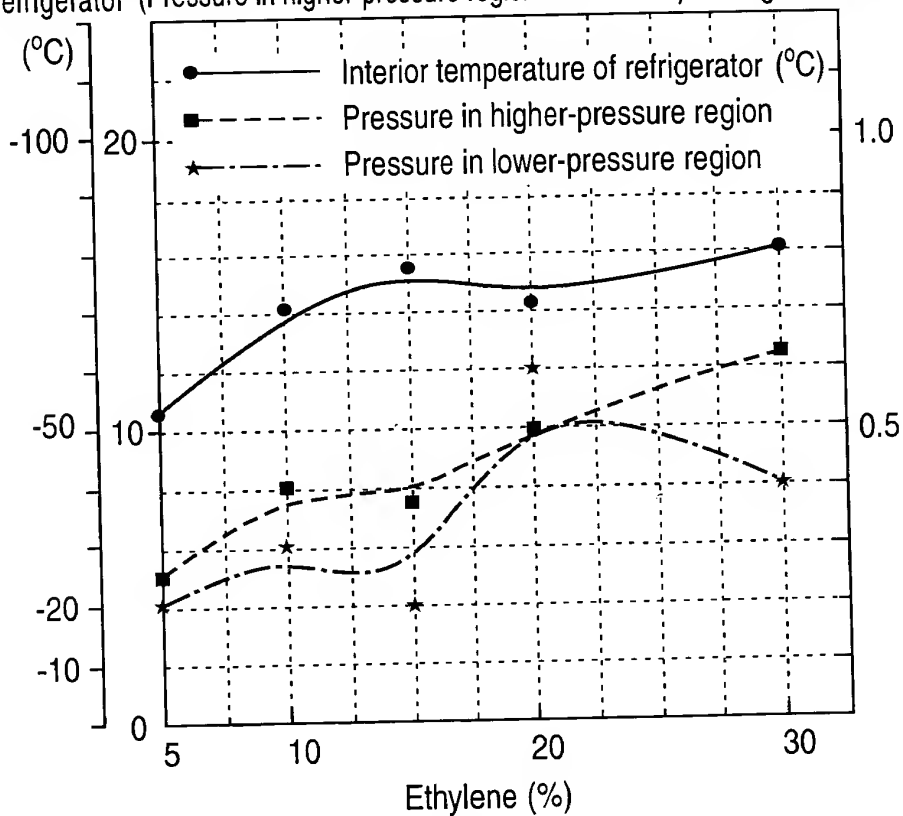


10/537261

7/19

FIG.8

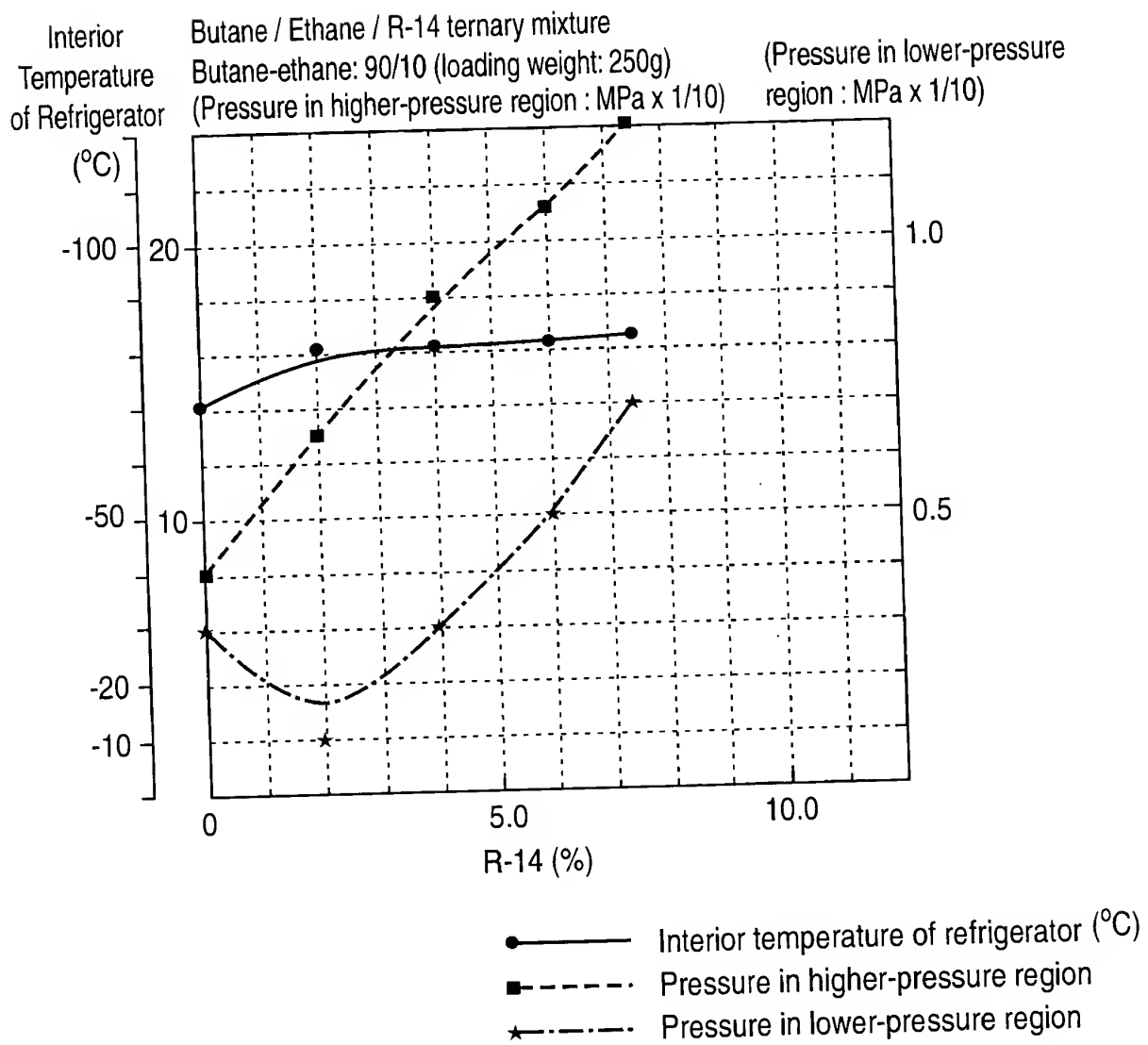
Interior Butane / Ethylene binary mixture
Temperature loading weight: 250g
of Refrigerator (Pressure in higher-pressure region: MPa x 1/10) (Pressure in lower-pressure region : MPa x 1/10)



10/537261

8/19

FIG.9

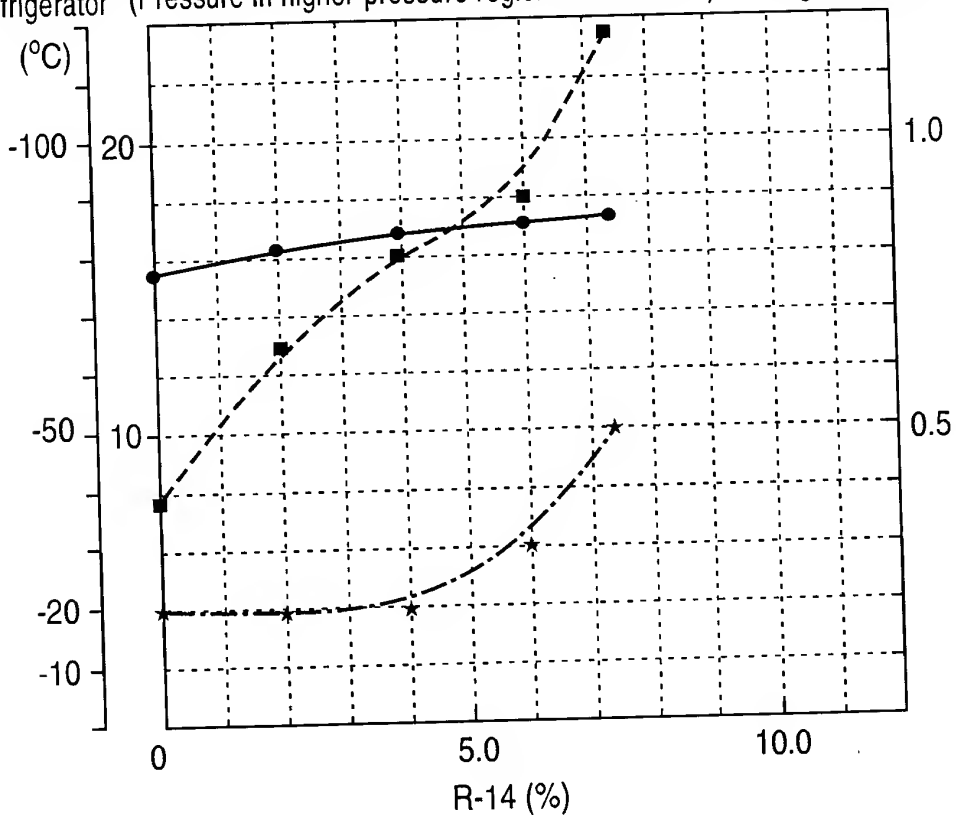


10/537261

9/19

FIG.10

Interior Temperature of Refrigerator (°C)
Butane / Ethane / R-14 ternary mixture
Butane-ethane: 85/15 (loading weight: 250g)
(Pressure in higher-pressure region : MPa x 1/10)
(Pressure in lower-pressure region : MPa x 1/10)



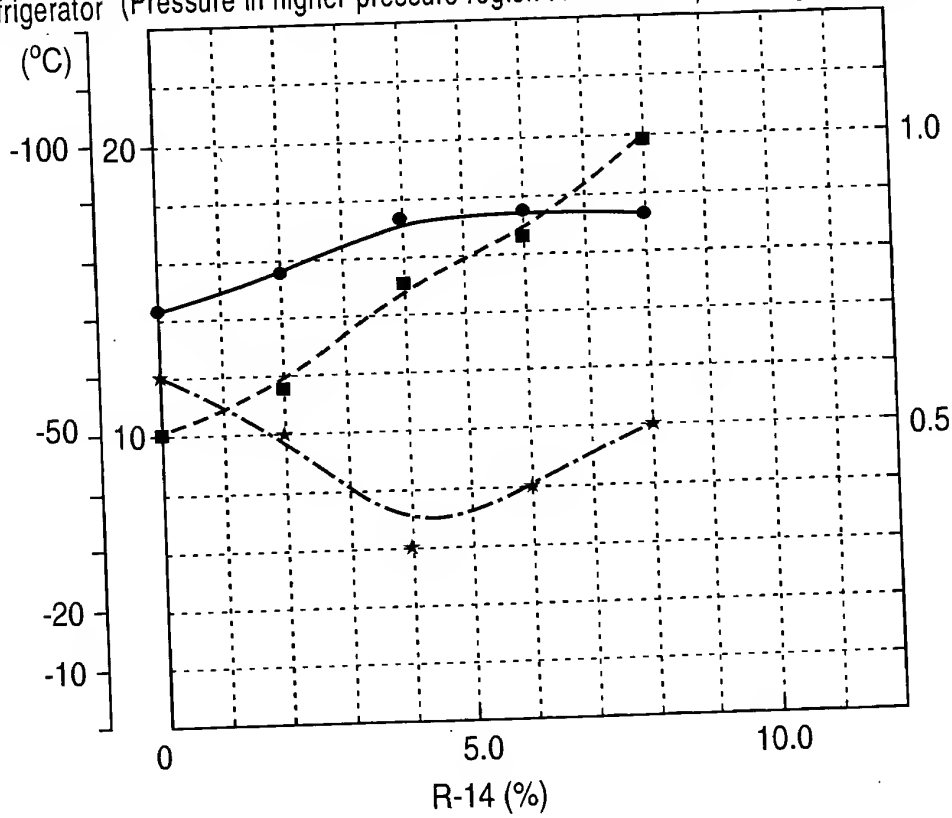
- Interior temperature of refrigerator (°C).
- - -■- - - Pressure in higher-pressure region
- · - · - ★ - · - · - Pressure in lower-pressure region

10/537261

10/19

FIG.11

Interior Temperature of Refrigerator (°C)
 Butane / Ethane / R-14 ternary mixture
 Butane-ethane: 80/20 (loading weight: 250g)
 (Pressure in higher-pressure region : MPa x 1/10)
 (Pressure in lower-pressure region : MPa x 1/10)

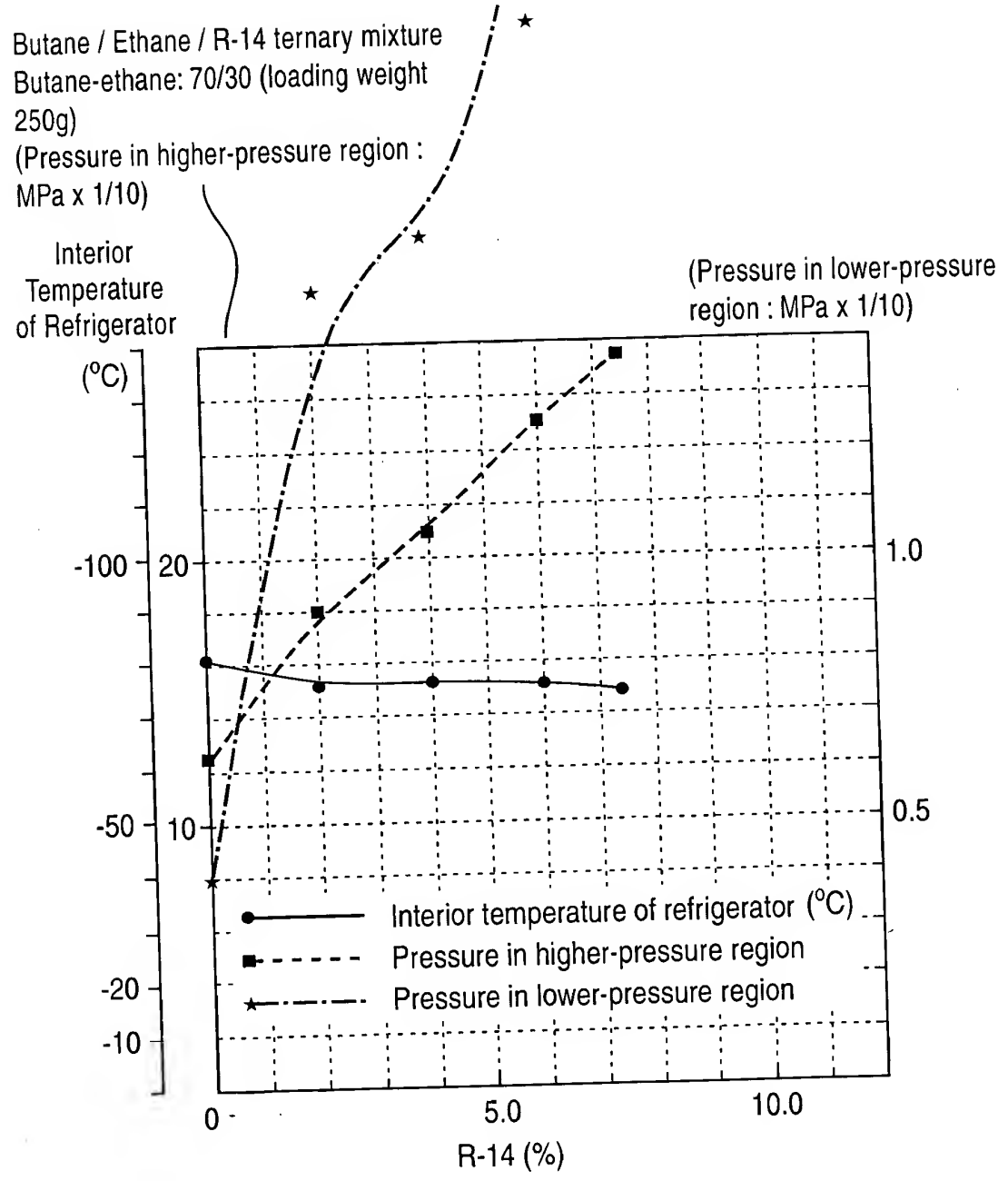


- — Interior temperature of refrigerator (°C)
- - - - Pressure in higher-pressure region
- ★ - · - Pressure in lower-pressure region

10/537261

11/19

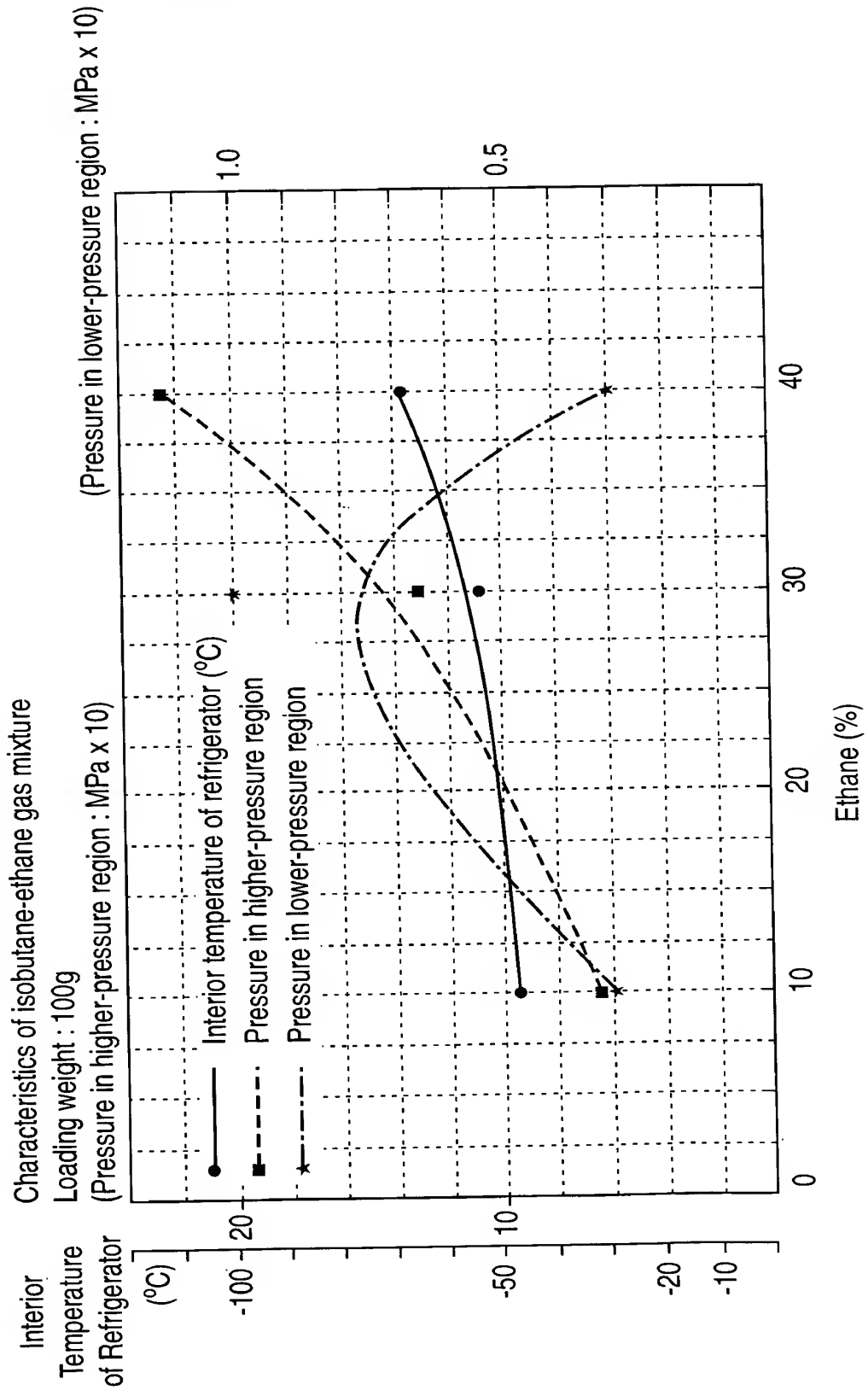
FIG.12



10/537261

12/19

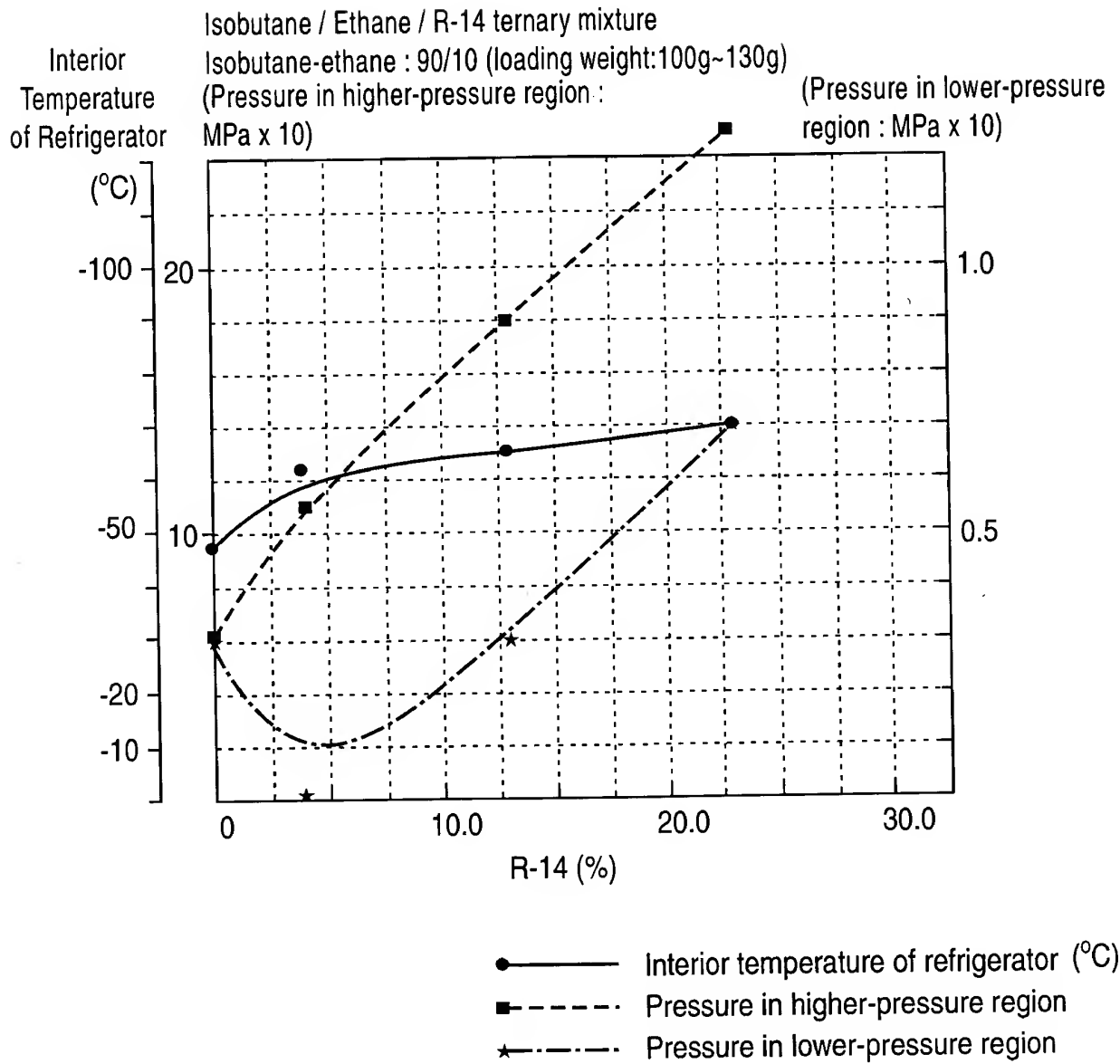
FIG.13



10/537261

13/19

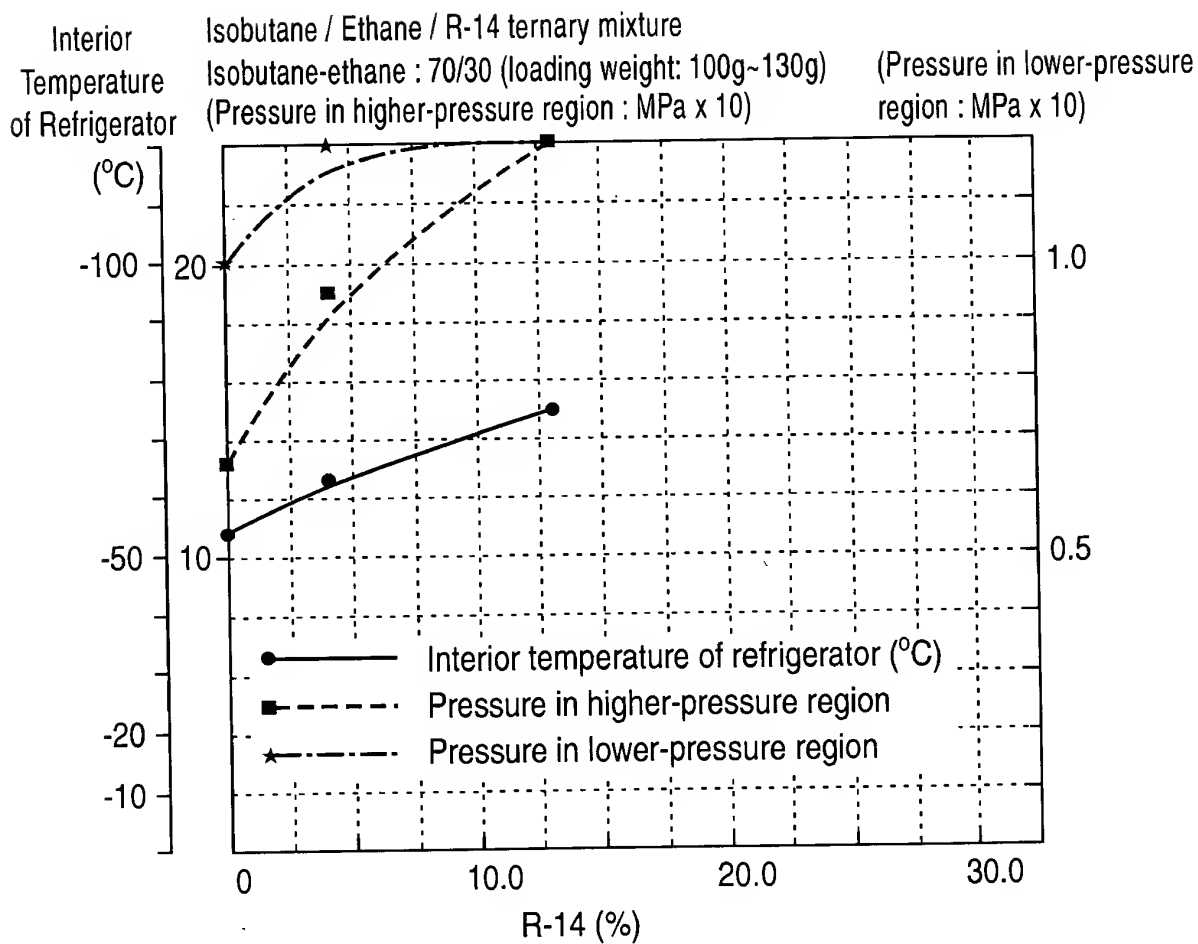
FIG. 14



10/537261

14/19

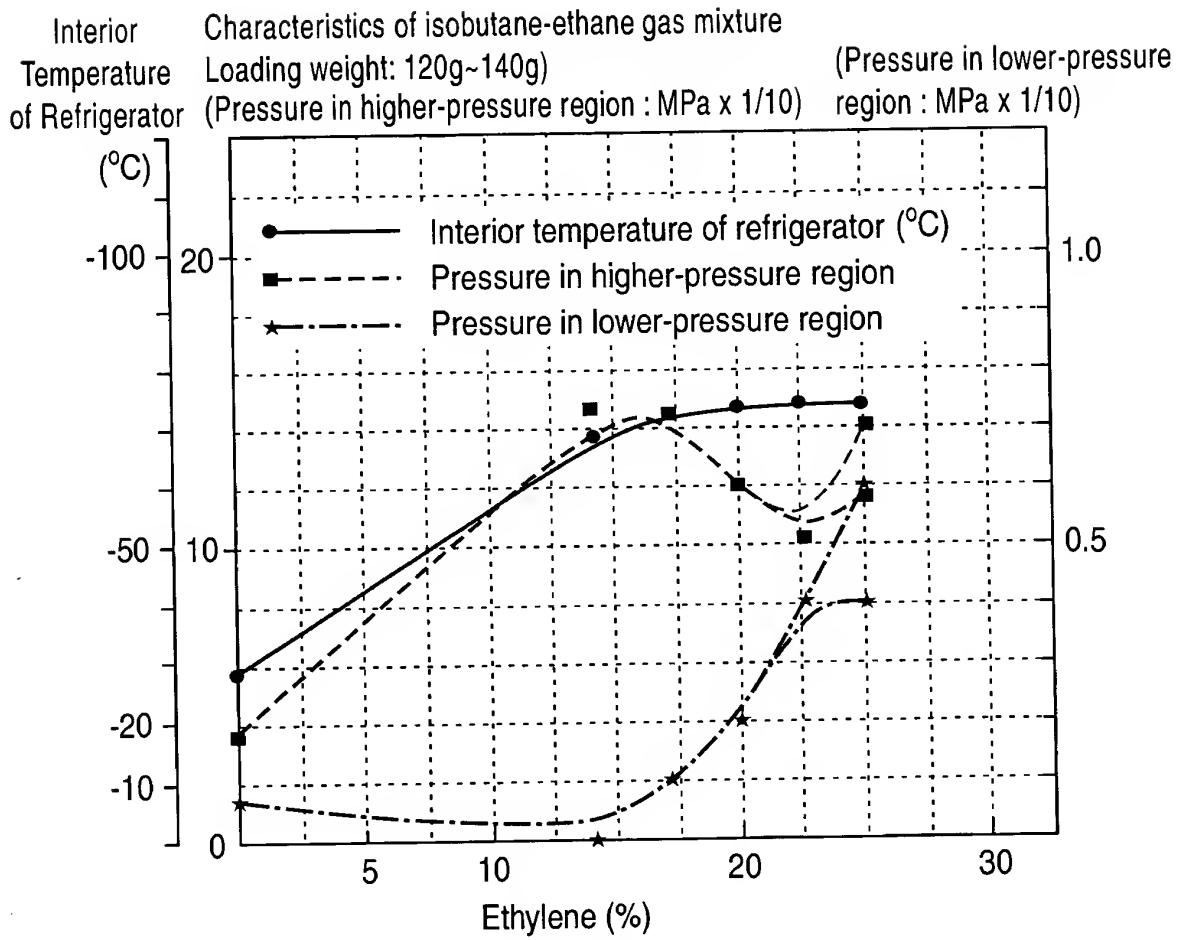
FIG.15



10/537261

15/19

FIG.16

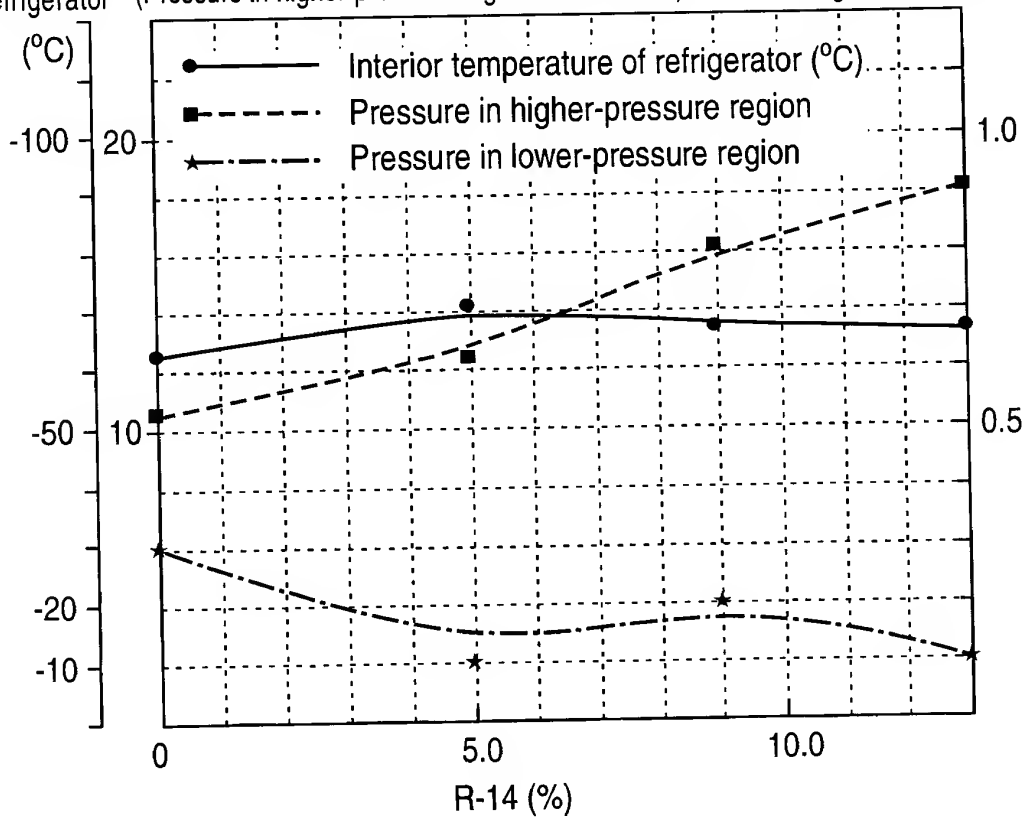


10/537261

16/19

FIG.17

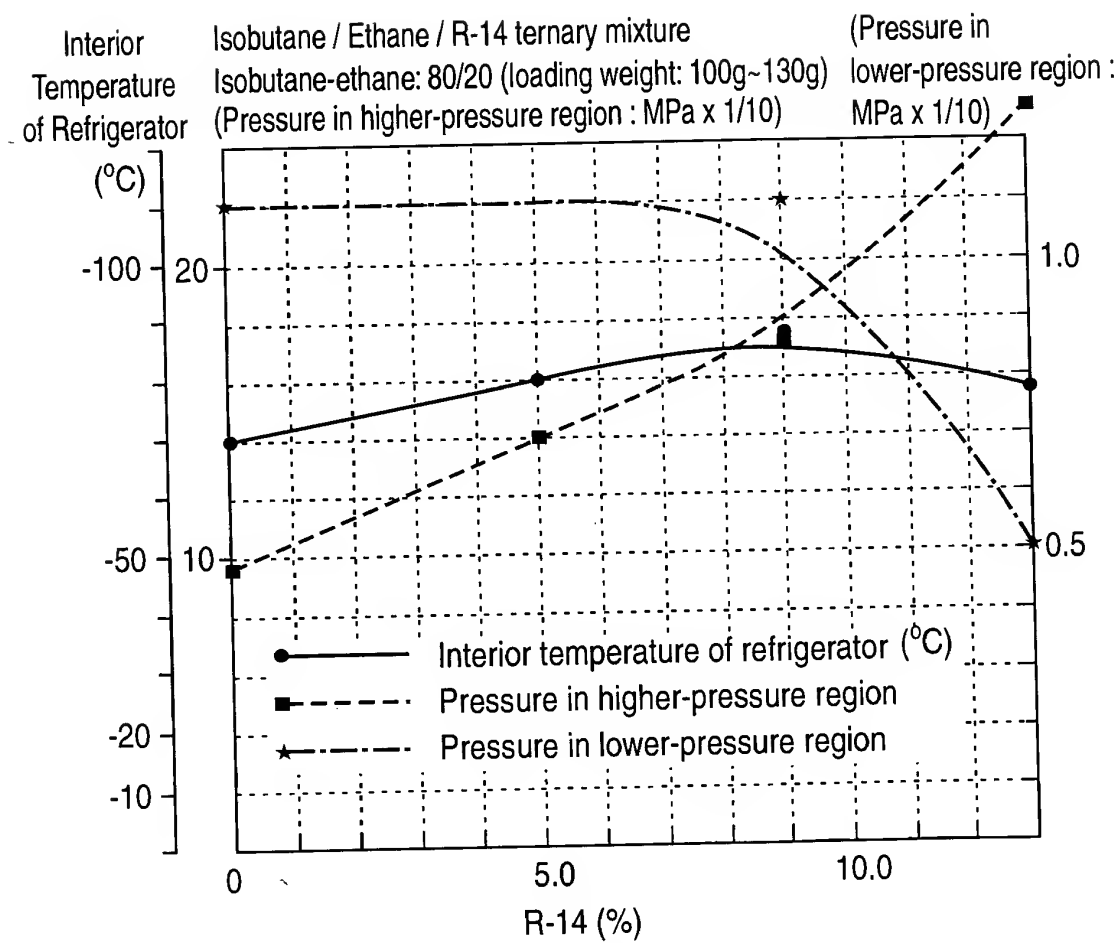
Interior Temperature of Refrigerator
Isobutane / Ethane / R-14 ternary mixture
Isobutane-ethane : 90/10 (loading weight: 100g~130g)
(Pressure in higher-pressure region : MPa x 1/10)
(Pressure in lower-pressure region : MPa x 1/10)



10/537261

17/19

FIG.18



10/537261

18/19

FIG.19

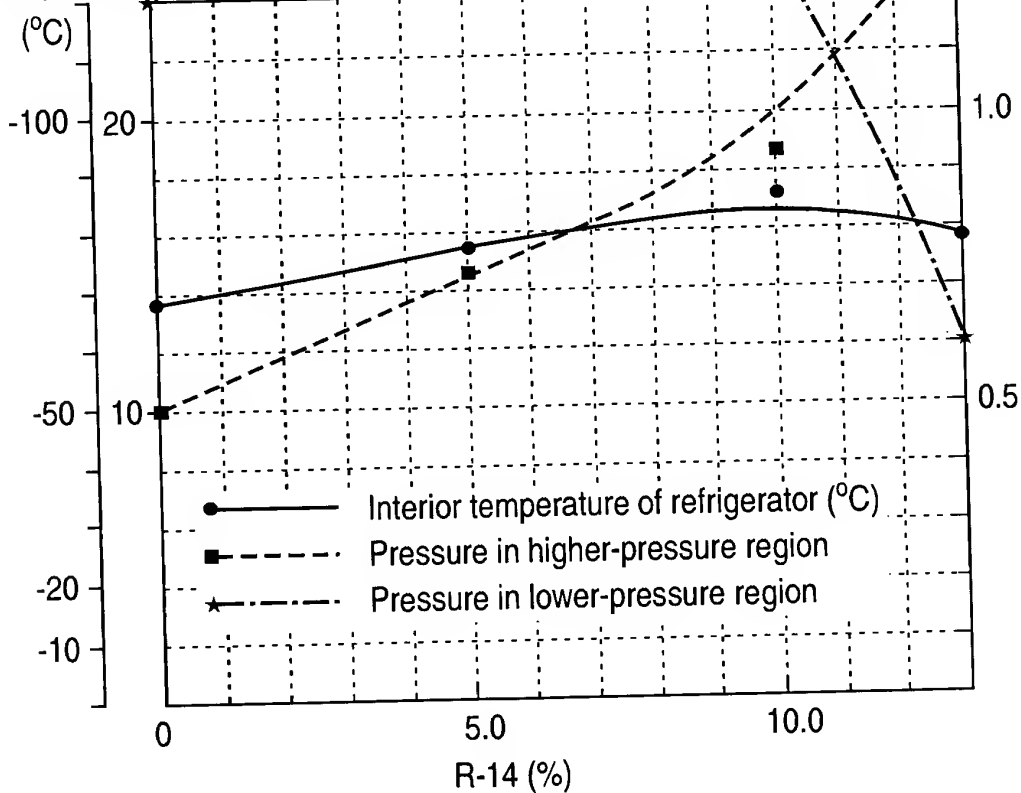
Isobutane / Ethane / R-14 ternary mixture

Isobutane-ethane : 70/30 (loading weight: 100g~130g)

(Pressure in higher-pressure
region : MPa x 1/10)

(Pressure in lower-pressure region:
MPa x 1/10)

Interior
Temperature
of Refrigerator
(°C)

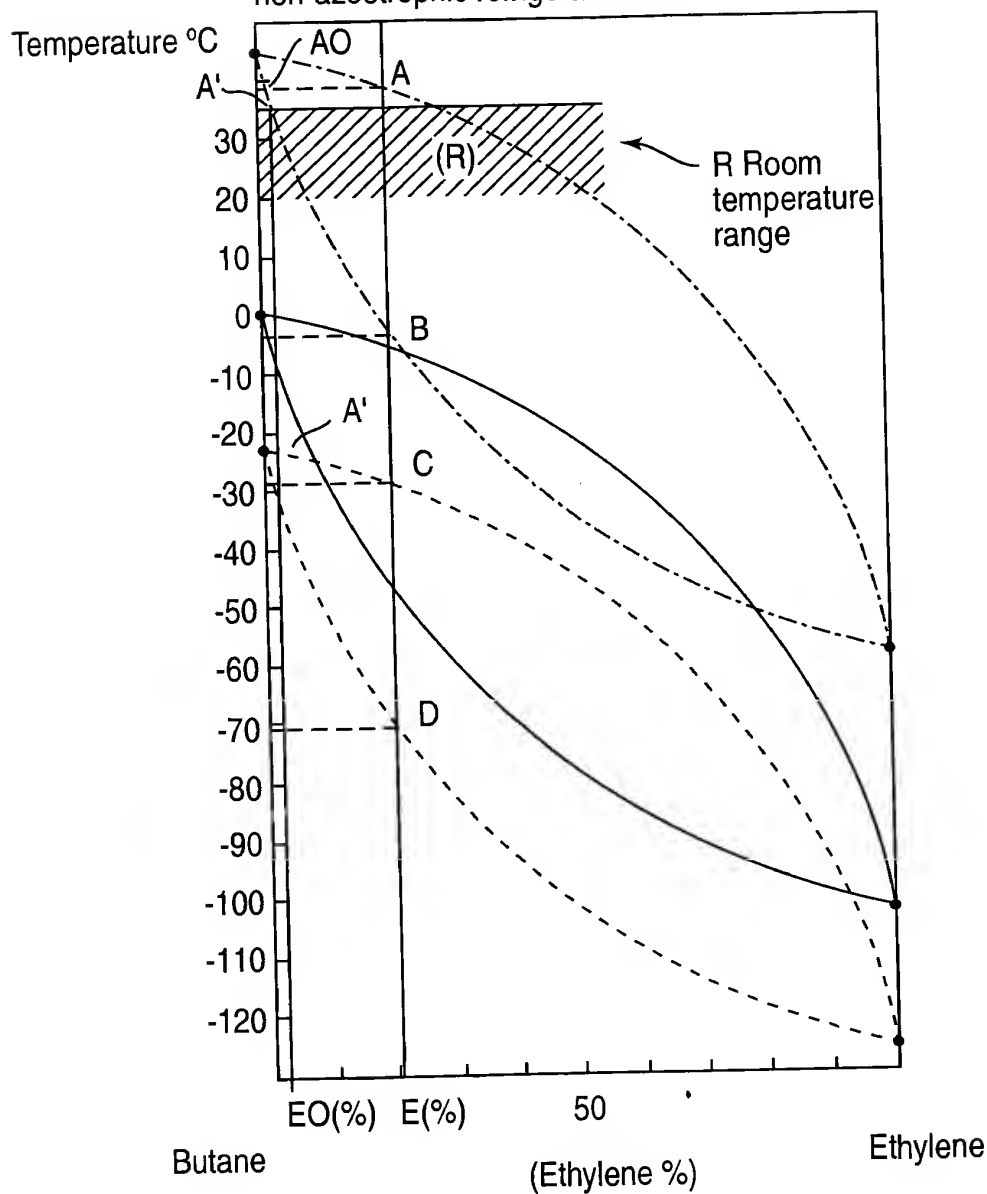


10/537261

19/19

FIG.20

Gas and liquid phase diagram of
 non-azeotropic refrigerant mixture



- - - Gas and liquid phase lines in higher-pressure region
- — Gas and liquid phase lines in atmosphere
- - - Gas and liquid phase lines in lower-pressure region